



TIMELINEZ

VOLUME 4 ISSUES 2/3 FEBRUARY/MARCH 1986 \$1.00

THE JOINT NEWSLETTER OF THE THREE TIMEX-SINCLAIR
USER GROUPS IN THE SAN FRANCISCO BAY AREA
** EBZUG PUG SVSTUG **

3-D WORDS 3 SIZES FOR 2066

JOHN HUNTON -- 3D WORDS

This program allows you to generate 3D letters on your Z.X.Spectrum.

First you must select the size that you want your letters to be then type your letters in and the computer will do the rest.

Size 1 = Small 20 pixels high.
Size 2 = Medium 30 pixels high.
Size 3 = Large 40 pixels high.

Size 1 = 9 Characters per line.
Size 2 = 7 Characters per line.
Size 3 = 6 Characters per line.

MAIN MENU

- 1.Change Size of letter.
- 2.Instructions.
- 3.PRINT 3D Words.
- 4.LPRINT Menu.
- 5.NEW program.
- 6.LPRINT Instructions.
- 7.LOAD ""SCREEN\$
- 8.SAVE "3D WORDS"

3D WORD COMES FROM THE NOV. 1985 TRIANGLE SINCLAIR USERS' GROUP N/L. THE PROGRAM WAS TYPED BY SONJA MOCKRIDGE AND A TAPED COPY CAN BE FOUND IN THE PUG/SVSTUG SOFTWARE LIBRARY.

PUG NEWS by George Mockridge

Be sure and attend the February meeting if you want to have a say as to the future leadership and operation of the group. I won't go into great detail here except to say that new officers will be presented for approval and a general discussion will be held concerning the future direction PUG should follow. It is important that everyone has his or her views known so please try to be there on the 16th.

At our January meeting we got a volunteer to serve as a liaison between the group and inmates who are learning Sinclair Basic at a prison in Nevada. Rita Toth will be handling this chore and it will be up to us to help her answer questions and gather hardware support. I have already heard from someone who wants to donate another TS 1000.

About 20 of us are now the proud owners of Modem boards. We had a group purchase of the devices and now all we have to do is build cases, find power supplies and software, and figure out how to work them. I expect a lot of discussion on this subject at our next several meetings. Don't forget that you can purchase the Mterm II software from Sunset Electronics for \$19.95.

Jack Dohany provided a very interesting review of the disk drive system from Timex of Portugal for those attending the Jan. meeting. It seems that he was not too impressed with what he had heard about the system, but after he got his hands on one and actually used it he completely changed his mind. He now feels that it could very well be the best choice for T/S memory expansion. We will be looking forward to a TIME-LINEZ review from Jack on this subject. SO LONG FOR THIS MONTH.

LOOKING FOR AN ABSOLUTELY WORTH-LESS, POINTLESS PROGRAM? I MEAN ONE THAT SHOWS WHAT REALLY DUMB THINGS THAT A COMPUTER CAN DO?? TRY THIS ONE!!!

(HOWEVER, IT DOES CONTAIN SOME GOOD PROGRAMMING LOGIC!!!)

WALT GABY

```
10>REM *****
20 REM BASED UPON ITEM IN
   MAY 1985 ISSUE OF
   POPULAR COMPUTING
30 REM *****
100 PRINT TAB 6;"CRAZY CANCELLA
TIONS"
110 PRINT TAB 6;"-----"
120 PRINT "THIS PROGRAM FINDS I
NCIDENCES OF COINCIDENTALLY CORRE
CT CANCELLATIONS. FOR EXAMPLE,
BY CANCEL- LING THE SIXES, IT F
INDS THAT 16/64 = 1/4."
130 PRINT "TO DEMONSTRATE ITS W
ISDOM, THE PROGRAM IGNORES MATH
EMATICALLY CORRECT CANCELLATION
S SUCH AS 10/20 = 1/2 AND 20/3
0 = 2/3."
140 PRINT "IT TAKES 240 SECONDS
FOR THE PROGRAM TO ACCOMPLIS
H THIS FEAT."
150 INPUT "PRESS ""ENTER"" TO R
UN PROGRAM ";R$
200 LET ER=.0001: REM ERROR TOL
ERANCE
205 FOR T=1 TO 9: FOR U=1 TO 9:
FOR A=1 TO 9: FOR B=1 TO 9
210 IF T<>A AND T<>B AND U<>A A
ND U<>B THEN GO TO 295
215 LET NUMERATOR=10*A+B
220 LET DENOMINATOR=10*T+U
225 IF NUMERATOR<DENOMINATOR TH
EN GO TO 240
230 LET A=9: LET B=9
235 GO TO 295
240 LET Q=NUMERATOR/DENOMINATOR
245 LET E1=ABS (Q-A/T)
250 LET E2=ABS (Q-A/U)
255 LET E3=ABS (Q-B/T)
260 LET E4=ABS (Q-B/U)
265 IF A=T AND E4<ER THEN
GO TO 290
270 IF A=U AND E3<ER THEN
GO TO 290
275 IF B=T AND E2<ER THEN
GO TO 290
280 IF B=U AND E1<ER THEN
GO TO 290
285 GO TO 295
290 PRINT TAB 5;NUMERATOR;" / ";D
ENOMINATOR;" IS AN INCIDENCE"
295 NEXT B: NEXT A: NEXT U: NEX
T T
300 PRINT : PRINT "TH..TH..TH..
THAT'S ALL, FOLKS!"
```

QL: MAKING SLOW BUT STEADY PROGRESS

by Norm Lehfeldt

It would not be accurate to say that the QL is exactly setting the world on fire, but there are signs that it is finding a niche and filling it very well indeed.

One of the signs of this is that the Wednesday night T/S Conference on Compuserve is increasingly dominated by QL discussions. The most recent QL topic has been the successful mating of QL's to modems. This has been accomplished through the use of a hardware translator that overcomes the communications protocol differences between here and the U.K. The device is being sold with terminal software that allows incoming data to be saved directly to amicrodrive rather than to a RAM buffer. Once you are off line the data may be edited, printed, etc. By next time I expect to have one of these devices in hand for a report.

Followers of corporate politics will already know that Nigel Searle has departed Sinclair Research entirely. According to Rob Curry's excellent "QL Report", he has gone to work for "an undisclosed IBM software company." His departure seems to have coincided with S.R.'s decision to make a more aggressive effort to market through dealers—who are now being offered discounts on Sinclair monitors and printers as well as the computers themselves. These devices may now be inspected and purchased locally at Sunset Electronics.

Hardware looks pretty sitting on your computer desk, of course, but it is software that separates the QL and the Atari ST from the Amiga. New English titles available in this country include a remarkable and remarkably complete Super Basic compiler called "Supercharge" from Digital Precision, an astronomy program called "Cosmos" from Talent that displays the night sky as seen from any place at any time, and the first completely American QL program, "Concept 3D", a computer-aided-design type program from Robert Fingerle of "Textwriter" fame.

You have probably noticed that the various Timex/Sinclair oriented publications are beginning to feature articles on programs for the QL. This is happening at just the right time since the English magazine "QL User" has suspended publication. This is hard to figure since sales of the QL and other Sinclair machines are reported to be moving at a good clip in the U.K.

Rumours abound about the 128K Spectrum, the enhanced QL called "Enigma", and other new Sinclair machines. But it must be said that the QL is here NOW. It is designed to work with American television sets—saving you the initial cost of a monitor, and it arrives (for \$299.00) with a suite of immediately usable software that costs \$695.00 by itself in its IBM version!

I expect to be able to demonstrate some of the new software I have mentioned at the upcoming PUG meeting.

Come on in—the QL water is fine.

SVSTUG NEWS by Bill Miller

* The 860129 SVSTUG meeting was attended by 13 people. Terry Greenlee reported on transferring information between unattended TS computer systems with 2050 Modems.

Thanks to Carl Rink for volunteering to try to translate and try to figure out the instructions (in German) to the Interface PC Board donated by George Coronado.

Can anyone help with translating a newsletter from G.U.T.S. de Mexico? It's in Spanish.

FOR SALE for TS1000

A&J Microdrive w/11 Wafers, \$100 or best offer.
Memotech Centronics Interface w/cable, \$50 or best offer.
Both items are in good condition.
Glenn Zaretska
19548 Alama Rd.
Castro Valley, CA 94546
415 889-9200

Thanks to Glenn for donating 3 SYNC magazines + 3 TS1000 books to the SVSTUG library.

* 8601 Newsletter Exchange:

G.U.T.S. de Mexico 8510/11
ZX Forum 8511/12
PC Users Group of New York 8512
Sincus 8511/12
L.I.S.T. 8601
G.U.T.S. de Sacramento 8601
N.Y.T.S.E. Network 8512

These are usually available at any of the 3 TIMELINEZ group meetings.

* Thanks to A&J Microdrive for loaning SVSTUG 7 Rotronics Wafadrives and 6 ZX Spectrums.

These are available for loan to TIMELINEZ readers for a deposit large enough to insure their return in good working condition (or replacement) + \$10 shipping and/or handling.

As of now they don't have wafers or power supplies.

Wafers are available from:
Damco Enterprises 617 678-2110
or
A&J Microdrive 408 732-9292

A 1 amp 9 volt power supply (such as the TS1500 power supply) hooked up to the ZX Spectrum thru a Radio Shack part number 274-1569 Coaxial DC Power Connector (5.5mm OD, 2.1mm ID) with the 9 volts on the OD and ground on the ID, will work.

For more information contact:
Bill Miller 408 253-3175.

Thanks to Dave Foreman for providing additional Wafadrive documentation.

Command syntax

Given below is a brief summary of the commands applicable to Wafadrive operation.

NEW *	Initialises O/S
NEW #	Clears BASIC program
NEW	Clears BASIC and O/S
FORMAT * "d:wafename"	Formats new wafer
CAT * "d"	Displays wafer directory
CAT # "d"	Sets default drive
SAVE * "d:filename"	Save BASIC program
SAVE * "d:filename" LINE run	Save with auto-run
SAVE * "d:filename", start, length, run	Save machine code
SAVE #	Save-with-replace
LOAD *	Load first program
LOAD * "d:filename"	Load specified program
LOAD * "d:filename", start, length	Load and relocate m/code
MERGE * "d:filename"	Merge programs
VERIFY * "d:filename"	Verify program, m/code
ERASE * "d:filename"	Erase file(s)
MOVE * "d:filename 1" TO "d:filename 2"	Copy file(s)
OPEN # * stream; channel	Open stream to channel
CLOSE # * stream	Close stream and channel
PRINT # stream; string/data/variables	Send data to stream
INPUT # stream; variables	Get data from stream
INKEY\$ # stream; variable	Get character from stream
CLEAR *	Close all opened streams
FORMAT * "R"; baud rate	Set RS232 baud rate
CLS *	Clear screen & attributes

PLEASE NOTE THAT THIS IS A DOUBLE ISSUE OF TIMELINEZ FOR FEBRUARY AND MARCH. THE NEXT ISSUE WILL BE OUT IN APRIL.

(A minor note: The December 1985 issue of Timelinez was incorrectly identified as Volume 4, Issue 12. It should be identified as Volume 3, Issue 12.)

Sinclair ZX Expansion System

Available From - English Micro Connection
15 Kilburn Ct.
Newport, R.I. 02840
(401) 849-3805

Price - 134.95 + 7% S&H

If you've become disenchanted with the slow load and save times of cassette operation and have pondered upgrading to a faster mass storage system, suprisingly there are now many products available for our Timex Sinclair computers to serve this need. As most of these are fine products, ultimately your choice will come down to personal needs and preference or in many cases budget. Consider this however: what system for under \$ 150 offers a single drive unit, an average storage capacity between 80 to 100K per cartridge, a fully documented 8K ROM based operating system, load and save speeds 15 times faster than cassette, a built-in RS 232 and network port, several additional BASIC commands, and software which includes a word processor, data base, games and a host of utility programs plus a blank cartridge to boot ? The answer is, the ZX Microdrive Expansion system by Sinclair Research.

THE HARDWARE

The hardware consists of a single microdrive unit, and the operating system housed in a device known as Interface 1. The interface is suppose to attach directly to the rear edge connector of the Spectrum, however for use on a TS 2068, a go-between twister board is needed. (See Timelinez Vol. 4, Issue 12 for a review of Doug Dewey's adapter board). The microdrive unit attaches to the interface by way of a short ribbon connector which is also supplied with the package.

The microdrive unit is very small, measuring approximately 3" x 3 1/2" overall. The cartridges themselves are about the size of a matchbox and consist of a continous loop of tape. The actual mechanism behind the operation is very similar to the old 8-track recording tape cartridges used in the early 1970's. Although earlier reliability problems were reported when the cartridges were first introduced, it appears that the manufacturing and quality control have improved significantly.

As I mentioned earlier, storage capacity can vary between 80 and 100K. The cause of this variability is due to the action of the microdrive formatting procedure. Similar to the format process of other disk based systems, the faulty sectors on the tape are marked in order to prevent their use. On the average, the cartridges usually contain 85 to 95K of storage availability.

Access times off the drive are surprisingly fast. The entire loop of tape can pass through the read head in about ten seconds. The actual loading time will depend a lot on where the head is positioned in relation to the start of the program. As an example of the speed, Tasword 2 on cassette takes over 2 minutes to load. On microdrive, the average access time is 12-16 seconds.

OPERATING SYSTEM

The operating system is ROM based and housed in the Interface 1 unit. With the interface attached, all those keywords which you have not been able to use previously are now functional (OPEN # CLOSE # MOVE ERASE CAT FORMAT). The operating system utilizes a "paging mechanism" whereby the 8K program is paged into the same memory area occupied by the 16K ROM of the computer (ie. 0000-1FFFFH). Hence, the nickname "Shadow ROM" has been given to describe this process. The very clever design of the paging mechanism has made it easy for the regular operating system to use the extra routines in the Shadow ROM.

RS-232 and NETWORK PORTS

Interface 1 uses do not stop at controlling the microdrives. Also included in the back of the interface is an RS-232 and network port. The purpose of the network port is to provide the ability to connect several Spectrums together using the jack-to-jack cable which is also provided in the package. This feature appears to be used frequently in educational settings.

The RS-232 port is a 9 pin D-type connector, and the pin-out specifications are listed in the owner's manual. The most common uses of this port would be to hook up full size serial printers, or a modem. By hooking up a full size printer, one can use the LPRINT and LLIST commands directly without the need of additional driver software. To use the COPY command, an appropriate screen driver routine is needed (eg. TASCOPY).

CONCLUSION

In closing, I should also make some mention of the free software that is included in the package. The software comes on microdrive cartridge and include the popular TASWORD 2, MASTERFILE, ANT ATTACK, and GAMES DESIGNER programs. In the case of Tasword and Masterfile, these are the microdrive versions and as such have saving and loading routines to microdrive automatically incorporated. In addition to these, and introductory cartridge is also included which provides many other demo and utility programs.

Overall, I am very pleased with the choice of the ZX Expansion system. Because of their popularity in the U.K., many serious application programs have built-in microdrive transfer incorporated automatically which makes tape to cartridge transfer easy to accomplish. I will also be reviewing at a later time a tape to microdrive device which can transfer any program easily.

So, whilst certainly not as powerful as a full disk drive system, for my purposes the features and the price fit my specific needs.

Steve Ishii
Corresponding Member
and member of West L.A. ZX Users Group

FROM THE OCT. 1985 ATSU
N/L OF COLOMBUS, OHIO.

MATHMATICAL MAGIC

by Dave Miller

DECIMAL TO FRACTIONS

Below is a program which will convert a decimal value, less than 1.0, to a fraction. The fraction is to the nearest 1/64th. This program should be useful in scaling dimensions when working with wood or metal. The program tells you to cut a piece which would be 0.197 inches, for example to 13/64 inches. Note that, if you change M in line number 40 to a different value, it is possible to get different fractions.

```
10 CLS
20 PRINT "DECIMAL?"
30 INPUT D
31 PRINT D
40 LET M=64
50 LET A=INT (D*M+.5)
60 LET C=A/2
70 IF INT (C+.5)<C OR C=0 THEN GOTO 100
80 LET M=M/2
90 LET A=A/2
95 GOTO 60
100 PRINT A; "/" ;M
110 PRINT "DIFFERENCE:";INT(1E4*(A/M-D)+.5)/1E4
```

FROM THE NOVEMBER 1985
CAT'S NEWSLETTER OF
BLADENSBURG, MARYLAND.

Hacking Tips - For Gamesters
Spectrum Edition
by Paul Millan

From The National Software Library,
and LIST

Since a lot of members are now able to run Spectrum programs, I thought the following POKEs might be of interest. A "*" following the entry means that the game is included on the SOFT-AID compilation tape.

Jet Set Willy
POKE 50552,170: POKE 50553,170 Blocks Hades
POKE 37982, POKE 37994,0: Walk thro' Monsters
POKE 60231,0 Improve conservatory
POKE 36545,0: POKE 56878,4 Banyan Tree easier
POKE 57411,160: POKE 57362,26: POKE 57464,170
Safer in Priest's Hole
POKE 50512,168: POKE 50520,168, POKE 50528,170
Ledge in Security Guard
POKE 54814,0 Removes star from Stairway
POKE 37925,0 Go straight to bed
POKE 64610,21: POKE 64632,85: POKE 64633,85: POKE
64634,0ost): POKE 64635,4: POKE 49386,60: POKE
49263,0: POKE 49271,0 Travel between The Bow and
Off Licence
POKE 56350,0: POKE 56358,0 Adds platform to First
Landing
POKE 41983,255 When you collect the tap, you can
see the final effect
POKE 36835,239 You can use Interface 2
POKE 38240,0 Obliterates Martha
POKE 59900,0 Disables the Attic bug

Cookie
POKE 26197,0 Stops Bin monster

Freeze Bees
POKE 34610,0 Infinite lives

Pi-Balled
POKE 44416,x x=number of lives

Pyramid
POKE 44685,0 Limitless energy

Arcadia
POKE 25776,0 Infinite lives

Wild West Hero
POKE 23821,x x=number of lives

Kokotoni Wilf *
POKE 43742,0 Infinite lives
POKE 42214,x x=number of lives
POKE 42177,2 This changes the color of most of the
sprites to red, so you don't die if you touch them.

Horace Goes Skiing *
POKE 29270,0 Removes all traffic
POKE 30762,0 Removes ski slope

Sabre Wolf
POKE 44786,0 Indestructable Sabreman
POKE 39702,30 Kills materializing monsters
POKE 44685,186: POKE 44575,255: POKE 44677,80 Stay
permanently Cyan

Atic Atac
POKE 36519,x x=number of lives
POKE 37229,179: POKE 37280,175 Makes dor open
more frequently

Others are shown in the LIST newsletter. They cover
Frank n Stein, Psytron, Psst, Jetpac, Project
Future, Zip-Zap, Tutankhamen, Defenda, Mr. Wimpy,
Monty Mole, Eskimo Eddie, Luna Jet Man, Moon Alert,
and Horace & the Spiders. If you're interested,
come to a dihard's meeting to check up on what's
there.

TWO ITEMS FROM THE OCTOBER 1985
ZX/TS FORUM N/L IN SOUTH FLORIDA

SPEED DIAL 2068 ST2

Speed-Dialer is an anonymous
program from the BBS-PC. Run
this program from the buffer of
Smart-Term II and the auto-dial
function will work much faster.

```
10 REM Speed-Dialer
20 POKE 54835,72: POKE 54836,4
30 POKE 54846,5: POKE 54847,3
40 POKE 54856,26
50 POKE 54857,44
```

After spending
all of your hard earned, on
computers, printers, programs
and such. You may find yourself
in a financial bind. I find it
helpfull to keep the following
program handy.

```
1 INPUT "NAME",A$:INPUT "ADDR",B$
2 INPUT "PHONE",C$
3 LPRINT:LPRINT A$:LPRINT B$:LPRINT C$:LPRINT: GOTO 2
```

This program makes nice penny
rollers. You just roll up the
pennies and put some tape on
them. Take them to the store
and you dont even have to write
you name on the rolls. Also,
just in case they count them
and you made a mistake: The info
fades rapidly, do to the tape
on the printing.....

TTK

LabelMaker will work with any full-size printer interface you may have (AERCO, Tasman, A&J, Oliger) because you will use the print driver software provided with your interface to drive this program.

First, load the driver software for your interface, and save it to a blank tape. DO NOT REWIND THE TAPE!

Next, type in the simple program below. SAVE this on the tape immediately following the driver. Make sure to use the LINE command on the SAVE so that it will auto-run.

That's all there is to it! Just one note...If you plan on using double quotes ("), such as LOAD "", you will need to input TWICE the amount you will want printed...LOAD "" will need to be inputted as LOAD """".

I have found a great place to buy form feed cassette labels to use with your full size printer. CUSTOM TAPE LOADERS (8135 Cox's Drive, Suite 209 Portage, MI 49081) has them available in 4 colors (White-Yellow-Red-Blue) for \$1.60 per 100. Check out their prices on blank computer tapes, too.

I hope you get as much use out of this program as I did. Let me know if you make any modifications to this program.

Bill Ferrebee
MOUNTAINEER SOFTWARE
749 Hill Street #6
Parkersburg, WV 26104

```
10 CLS : INPUT "Program Title:";a$
12 IF LEN a$>32 THEN GO TO 10
14 PRINT TAB 16-(LEN a$/2);a$
20 INPUT "Line #2 Info:";b$
22 IF LEN b$>32 THEN GO TO 20
24 PRINT TAB 16-(LEN b$/2);b$
30 INPUT "Line #3 Info:";c$
32 IF LEN c$>32 THEN GO TO 30
34 PRINT TAB 16-(LEN c$/2);c$
38 PRINT : PRINT : PRINT : PRINT : PRINT
40 INPUT "Bottom Line:";d$
42 IF LEN d$>32 THEN GO TO 40
44 PRINT TAB 16-(LEN d$/2);d$
50 PRINT AT 21,8; FLASH 1;"Correct? (y/n)"
52 IF INKEY$="" THEN GO TO 52
54 IF INKEY$="n" THEN GO TO 10
100 PRINT AT 21,8;"          ": INPUT "Number of copies :";x
110 FOR i=1 TO x
120 LPRINT TAB 16-(LEN a$/2);a$
122 LPRINT TAB 16-(LEN b$/2);b$
124 LPRINT TAB 16-(LEN c$/2);c$
126 LPRINT : LPRINT : LPRINT : LPRINT : LPRINT
128 LPRINT TAB 16-(LEN d$/2);d$
130 LPRINT : LPRINT
132 NEXT i
140 INPUT "More? (y/n)";x$
142 IF x$="y" THEN GO TO 100
150 INPUT "Another title? (y/n)";x$
152 IF x$="y" THEN GO TO 10
160 CLS : PRINT AT 10,8;"[Work Complete]": STOP
```

A SPECIAL MESSAGE TO ALL BAY AREA SINCLAIR USERS

IN ORDER FOR THIS NEWSLETTER TO
CONTINUE, YOUR PARTICIPATION IS
NEEDED!

ALMOST ALL OF YOU ARE DOING SOME-
THING THAT IS OF INTEREST TO OTHERS
...SUCH AS SOFTWARE PROGRAMS, HARD-
WARE PROJECTS, IMPROVEMENTS TO COM-
MERCIAL PROGRAMS, AND TIPS ON PRO-
GRAMMING TECHNIQUES.

THE IDEA OF USER GROUPS IS TO SHARE
IDEAS AND INFORMATION. SO THIS IS
A PLEA FOR YOU TO WRITE UP WHATEVER
IT IS THAT YOU ARE DOING AND SHARE
IT WITH YOUR FELLOW MEMBERS THROUGH
THE TIMELINEZ NEWSLETTER!

IF YOU HAVE A NEW SOFTWARE PROGRAM
OR A NEW PIECE OF HARDWARE, WRITE
A REVIEW ABOUT IT SO THAT OTHERS
CAN LEARN FROM YOU.

WHEN YOU HAVE AN ITEM FOR PUBLICA-
TION, GIVE IT TO:

RICK LINK, EBZUG,
BILL MILLER, SVSTUG, OR
GEORGE MOCKRIDGE, PUG.

OR SEND IT DIRECTLY TO ME:

WALT GABY
3325 PIERCE STREET
SAN FRANCISCO, CA 94123
(415) 921-6077

WITHOUT YOUR ACTIVE INVOLVEMENT
IN YOUR NEWSLETTER, WE MAY HAVE
TO GO TO A BI-MONTHLY OR QUARTERLY
PUBLICATION SCHEDULE.

O.K.? LET'S DO IT! SHARE YOUR
IDEAS AND EXPERIENCES WITH YOUR
FRIENDS!

PROGRAMMING TIPS

Chapter 18 of the 2068 Manual
shows how to POKE binary num-
bers for creating User Defined
Graphics.

The program below, by D. Rich-
ardson (in T-S Horizons), demon-
strates how to accomplish UDG's
with the use of decimal numbers
(in DATA statements) for CHR\$
144 through 163.

```

5 LET X=144
10 FOR N=0 TO 7
15 READ R: IF R=255 THEN GO TO
1000
20 POKE USR CHR$ X+N,R
30 NEXT N
35 LET X=X+1: GO TO 10
100 DATA 0,0,0,0,0,0,0,0
110 DATA 0,0,0,0,0,63,64,64
120 DATA 0,15,31,63,31,95,95,31
130 DATA 0,128,192,224,224,240,
240,240
200 DATA 0,1,1,1,0,0,0,0
210 DATA 144,144,0,255,0,0,1,2
220 DATA 55,3,3,131,67,35,70,18
9
230 DATA 249,249,233,192,152,56
120,252
300 DATA 0,0,0,0,0,0,0,0
310 DATA 2,2,1,0,1,2,4,8
320 DATA 161,191,99,131,3,3,3,3
330 DATA 252,252,252,252,252,25
2,252,252
400 DATA 0,0,0,2,13,20,18,40
410 DATA 16,16,32,34,221,101,10
6,96
420 DATA 3,3,3,131,69,69,69,69
430 DATA 252,252,252,252,252,25
2,248,244
500 DATA 32,28,2,1,1,0,0,0
510 DATA 80,88,72,36,152,152,25
5
520 DATA 129,129,177,72,8,16,22
4,255
530 DATA 244,236,236,236,236,11
0,15,255
600 DATA 256

```

In order to see the results of
the above program, add the
following Line 1000. Be sure
to enter the letters within the
quotes through the Graphics key!

```

1000 PRINT AT 10,10;"ABCD""EFGH
""IJKL""MNOP""QRST"

```

Walt Gaby

* * * * * COMPUTER CALENDAR * * * * *

F E B R U A R Y

- 1 Computer Swap America
Santa Clara County Fairgrounds
- 16 Peninsula User Group 1:00
Peninsula Hospital
1783 El Camino Real
Burlingame
- 25 Silicon Valley User Group 7:00
Cupertino Library
10400 Torre Avenue
Cupertino
- 27 East Bay Z80 User Group 7:30
West Branch Library
1125 University Avenue
Berkeley

M A R C H

- 8 Golden Gate Computer Expo
89 Oakland Coliseum
- 16 Peninsula User Group 1:00
TUES APRIL 1
- 25 Silicon Valley User Group 7:00
- 27 East Bay Z80 User Group 7:30

A P R I L

- 20 Peninsula User Group 1:00
- 24 East Bay Z80 User Group 7:30
WEDS APRIL 30
- 29 Silicon Valley User Group 7:00

* * * * *
THE COMPUTER SHOW
EVERY WEDNESDAY, 7 TO 8 P.M.
TV STATION KSTS, CHANNEL 48
* * * * *

E B Z U G EAST BAY Z80 USER GROUP
654 40TH STREET
RICHMOND, CALIFORNIA 94805
(415) 234-3310

PRESIDENT: RICK LINK

MEETINGS: FOURTH THURSDAY OF EACH MONTH, 7:30 P.M.
WEST BRANCH LIBRARY
1125 UNIVERSITY AVENUE, BERKELEY

MAKE CHECK FOR DUES PAYABLE TO "WOODY McPHEETERS".

P U G PENINSULA USER GROUP
263 GATEWAY, NO. 107
PACIFICA, CALIFORNIA 94044
(415) 359-3198

PRESIDENT: GEORGE HOCKRIDGE

MEETINGS: THIRD SUNDAY OF EACH MONTH, 1:00 P.M.
PENINSULA HOSPITAL
1783 EL CAMINO REAL, BURLINGAME

MAKE CHECK FOR DUES PAYABLE TO "GEORGE HOCKRIDGE".

S V S T U G SILICON VALLEY SINCLAIR TECHNOLOGY USER GROUP
6675 CLIFFORD DRIVE
CUPERTINO, CALIFORNIA 95014
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